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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Edward O. Clapper

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EXAMINER

RAMOS FELICIANO, ELISEO

ART UNIT

PAPER NUMBER

2687

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/997,091

**Applicant(s)**

CLAPPER, EDWARD O.

**Examiner**

Eliseo Ramos-Feliciano

**Art Unit**

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16, 21-51 and 58-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 21-51 and 58-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-5, 8-16, 21-22, 24, 27, 34-36, and 58-62** are rejected under 35 U.S.C. 102(e) as being anticipated by Maloney (US Patent Number 6,288,676).

Regarding **claim 1**, Maloney discloses an apparatus (control station) comprising:

a cellular map (CS 10 – Figures 4-5) of cellular communication cells in a geographic area, the cellular map stored in the apparatus;

a road map (41, 51 – Figures 4-5) of vehicular roads in substantially the same geographic area, the road map stored in the apparatus; and

a traffic flow analyzer (53, 54 – Figure 5; also Figure 8) coupled to the cellular map and the road map to determine vehicular traffic in at least one part of the geographic area based on analysis of occupancy data (traffic flow) corresponding to cellular devices present in the cellular communication cells (see column 13, line 10 to column 14, line 3; see also Figures 1-2, 8; column 1, line 58 to column 2, line 9; column 6, lines 6-22; column 9, lines 21-38; column 10, line 45 to column 11, line 14).

Regarding **claim 2**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the at least one part of the geographic area comprises at least one cell of the cellular communication cells (see Figure 4).

Regarding **claim 3**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the at least one part of the geographic area is expressed in geographic terms including a reference to at least one of the vehicular roads (see 41, 51 – Figures 4-5; Figure 2).

Regarding **claim 4**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the apparatus includes means to determine a delta over time in the occupancy data for at least one cell of the cellular communication cells (traffic flow monitor; column 13, line 10 to column 14, line 3).

Regarding **claim 5**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the apparatus includes a communication link to transmit information concerning the vehicular traffic (traffic alerts – column 9, lines 31-34).

Regarding **claim 8**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the apparatus includes a processor coupled to the traffic flow analyzer (301 – Fig. 8).

Regarding **claim 9**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the apparatus includes a map overlay mechanism to correlate the cellular map and the road map (Figure 4).

Regarding **claim 10**, Maloney discloses a cellular communication device (control station or management center) to communicate with a cellular system (Figure 5), the cellular communication device comprising:

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a receiver to receive communications from the cellular system (receiver of base station 10 – Figure 5);

a transmitter to transmit communications to the cellular system (transmitter of base station 10 – Figure 5);

map storage to store a map (302, 303, 301 – Figure 8); and

an analyzer (53, 54 – Figure 5; also Figure 8) coupled to the receiver to receive cell occupancy data corresponding to at least one cellular communication cell from the cellular system and to the storage to access the map to determine traffic in the at least one cellular communication cell of the cellular system according to the cell occupancy data and the map (see column 13, line 10 to column 14, line 3; see also Figures 1-2, 8; column 1, line 58 to column 2, line 9; column 6, lines 6-22; column 9, lines 21-38; column 10, line 45 to column 11, line 14).

Regarding **claim 11**, Maloney discloses everything claimed as applied above (see *claim 10*). In addition, the cellular communication device includes means to request the cell occupancy data (localization request from control station; column 14, lines 20-67, particularly 29); and storage to store the cell occupancy data (302, 303, 301 – Figure 8). (Also, traffic flow monitor; column 13, line 10 to column 14, line 3).

Regarding **claim 12**, Maloney discloses everything claimed as applied above (see *claim 10*). In addition, the cellular communication device further comprises data storage to store the cell occupancy data (302, 303, 301 – Figure 8); the cell occupancy data includes first occupancy data and second occupancy data for the at least one cellular communication cell (data from different transceivers is analyzed; at least two of them read as first and second as claimed); and the analyzer to determine traffic according to a delta between the first occupancy data and the

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second occupancy data (changes in data are used to determine roadway conditions, for example, congestion) (see column 9, lines 21-38 and citations above).

Regarding **claim 13**, Maloney discloses everything claimed as applied above (see *claim 12*). In addition, the cellular communication device includes an overlay mechanism to geographically correlate a cell map of cellular communication cells and a road map in the map storage (see Figure 4).

Regarding **claim 14**, Maloney discloses everything claimed as applied above (see *claim 13*). In addition, the traffic includes vehicular traffic and the cellular communication device further including: a display to output information depicting the vehicular traffic (see Figure 4).

Regarding **claim 15**, Maloney discloses everything claimed as applied above (see *claim 12*). In addition, the cellular communication device includes a zoom control (Figure 2 is zoom view of Figure 1).

Regarding **claim 16**, Maloney discloses everything claimed as applied above (see *claim 12*). In addition, the cellular communication device includes means to update the map storage to store a new map received via the receiver (column 11, lines 9-14

Regarding **claim 21**, Maloney discloses a method comprising:  
determining a delta in occupancy data (change in location of mobile transceivers) of at least one cell (e.g. CS 10) of a cellular communication system (Figure 5); and

determining, according to the delta in occupancy data, spatial movement of cellular devices in communication with the cellular communication system (traffic flow is monitored and analyzed to determine roadway conditions, e.g. congestion) (see column 13, line 10 to column

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14, line 3; see also Figures 1-2, 8; column 1, line 58 to column 2, line 9; column 6, lines 6-22; column 9, lines 21-38; column 10, line 45 to column 11, line 14).

Regarding **claim 22**, Maloney discloses everything claimed as applied above (see *claim 21*). In addition, the spatial movement comprises substantially planar movement of vehicular traffic (see Figure 4).

Regarding **claim 24**, Maloney discloses everything claimed as applied above (see *claim 21*). In addition, the method includes determining the delta according to a proper subset of available occupancy data for a cell (data from different transceivers is analyzed; at least two of them read as first and second subsets; changes in data are used to determine roadway conditions, for example, congestion) (see column 9, lines 21-38 and citations above).

Regarding **claim 27**, Maloney discloses everything claimed as applied above (see *claim 21*). In addition, the method includes publishing information representing the spatial movement (traffic alerts – column 9, lines 31-34; and/or traffic condition display – Figure 4).

Regarding **claim 34**, Maloney discloses everything claimed as applied above (see *claim 21*). In addition, the method includes constructing a set of vectors representing vehicular traffic between cells of the cellular communication system (see arrow, Figure 4; also Figures 1-2).

Regarding **claim 35**, Maloney discloses everything claimed as applied above (see *claim 34*). In addition, the method includes constructing a linear boundary map describing where vehicular roads connect cells (see Figure 4; also Figures 1-2).

Regarding **claim 36**, Maloney discloses everything claimed as applied above (see *claim 21*). In addition, the method in response to at least one of the delta and the spatial movement, adjusting functionality of the cellular communication system (column 9, lines 21-38).

Regarding **claim 58**, Maloney discloses everything claimed as applied above (see *claim 1*). In addition, the traffic flow analyzer is coupled further to determine the vehicular traffic in light of the cellular map and the road map (column 8, line 51 to column 9, line 38).

Regarding **claim 59 and 61**, Maloney discloses everything claimed as applied above (see *claims 1 and 10*). In addition, the traffic flow analyzer is coupled to categorize the occupancy data based on movement between the cellular communication cells (for example, absence of motion indicates congestion; column 9, lines 21-38; column 10, lines 3-44).

Regarding **claim 60 and 62**, Maloney discloses everything claimed as applied above (see *claim 1 and 10*). In addition, the traffic flow analyzer is coupled to aggregate the occupancy data to determine the vehicular traffic (information from several transceivers is aggregated to determine traffic congestion; column 9, lines 15-38).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 6-7 and 28-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney (US Patent Number 6,288,676) in view of von Grabe (US Patent Application Publication Number 2004/0246147 A1).

Regarding **claims 6-7**, Maloney discloses everything claimed as applied above (see *claim 5*). However, Maloney fails to specify that the traffic alerts are sent to cellular devices which are coupled to the cellular communication cells or transmitted over the internet.



In the same field of endeavor, von Grabe discloses traffic alerts that are sent to cellular devices which are coupled to the cellular communication cells or transmitted over the internet (see the abstract). Traffic alerts that are sent to cellular devices for the advantage of alerting subscribers of impending traffic jams. Traffic alerts that are transmitted over the internet for the advantage of low cost information distribution and because internet is widely accessible.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to send Maloney's traffic alerts to cellular devices which are coupled to the cellular communication cells for the advantage of alerting subscribers of impending traffic jams or transmit the traffic alerts over the internet for the advantage of low cost information distribution and because internet is widely accessible.

Regarding **claim 28 and 31-33**, Maloney discloses everything claimed as applied above (see *claim 27*). However, Maloney fails to specifically disclose transmitting the information to cellular devices in communication with the cellular communication system; selecting, to receive the transmitted information, substantially only those cellular devices which are subscribed to receive the transmitted information; sending the information to an entity which is not a cellular device in communication with the cellular communication system, wherein the entity comprises at least one of a police department, a department of transportation, a news bureau, a radio station, a television station, a server computer, and an internet website.

In the same field of endeavor, von Grabe discloses traffic alerts that are sent to cellular devices which are coupled to the cellular communication cells or transmitted over the internet (see the abstract). Traffic alerts that are sent to cellular devices for the advantage of alerting

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subscribers of impending traffic jams. Traffic alerts that are transmitted over the internet for the advantage of low cost information distribution and because internet is widely accessible.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to send Maloney's traffic alerts to cellular devices which are coupled to the cellular communication cells for the advantage of alerting subscribers of impending traffic jams or transmit the traffic alerts over the internet for the advantage of low cost information distribution and because internet is widely accessible.

Regarding **claim 29**, Maloney and von Grabe disclose everything claimed as applied above (see *claim 28*). In addition, the combination disclose wherein the information includes a graphical depiction of traffic on roads in the cell occupied by, and neighboring cells of, at least one cellular device (see Figure 4 of Maloney).

Regarding **claim 30**, Maloney and von Grabe disclose everything claimed as applied above (see *claim 28*). In addition, the combination disclose wherein the information comprises: travel routing advice (traffic alerts – column 9, lines 31-34 of Maloney).

5. **Claims 23, 25-26, and 37-51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney (US Patent Number 6,288,676).

Regarding **claim 23**, Maloney discloses everything claimed as applied above (see *claim 21*). However, Maloney fails to specifically mention that the spatial movement comprises three-dimensional movement of aeronautical traffic.

Nevertheless, such intended use of Maloney would have been obvious to a person of ordinary skill in the art at the time the invention was made because it is an engineering design choice.

Regarding **claims 25-26**, Maloney discloses everything claimed as applied above (see *claim 24*). However, Maloney fails to specifically mention randomly selecting the proper subset or algorithmically selecting the proper subset.

Nevertheless, randomly selecting the proper subset would have been obvious to a person of ordinary skill in the art at the time the invention was made for the advantage of easier and low cost implementation.

On the other hand, algorithmically selecting the proper subset would have been obvious to a person of ordinary skill in the art at the time the invention was made for the advantage of better precision in the calculations/results.

Regarding **claims 37-38**, Maloney discloses everything claimed as applied above (see *claim 36*). However, Maloney fails to particularly disclose to increase cell capacity based on the delta and spatial movement, nor based on future changes as claimed.

The examiner contends that the delta (change) and spatial movement of devices to a particular cell, inherently burdens the cell capacity to the point of possible overloading. If such tendency can be predicted, overloading can be minimized or at least alleviated. The examiners takes official notice of that a conventional way of alleviating or preventing overloading is increasing cell capacity as claimed.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to increase Sumner's cell capacity based on e delta and spatial movement and/or future changes for the advantage of preventing overloading.

As to **claims 39-51**, they are obvious method claims of *claims 10-16 & 21-38*. Therefore, they are rejected for the same reasons shown above.

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***Response to Arguments***

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Any inquiry concerning this communication from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is 571-272-7925. The examiner can normally be reached from 8:00 a.m. to 5:30 p.m. on 5-4/9 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid, can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ELISEO RAMOS-FELICIANO  
PATENT EXAMINER

ERF/erf  
August 2, 2005